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The first Canadian attempt to provide a comprehensive educational environment to satisfy the demands for "flexibility" in the educational continuum from kindergarten to grade 13 is discussed. The complex integrates three levels of learning into one campus, providing facilities for collegiate pupils, senior school students, and junior school students. An academic structure was designed to--(1) accommodate present educational needs and provide for change in future educational philosophy and methods, (2) utilize new component systems, and (3) share common facilities. All three facilities are grouped on one site, which allows for more meaningful site relationships between schools in terms of outdoor space and sports facilities, pedestrian circulation, mechanical distribution, service access and community use, and the physical manifestation of a "student village" concept. (RK)

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STEPHEN LEACOCK EDUCATIONAL COMPLEX

for the Scarborough Board of Education

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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EF 003 043

Abram & Ingleson, Architects

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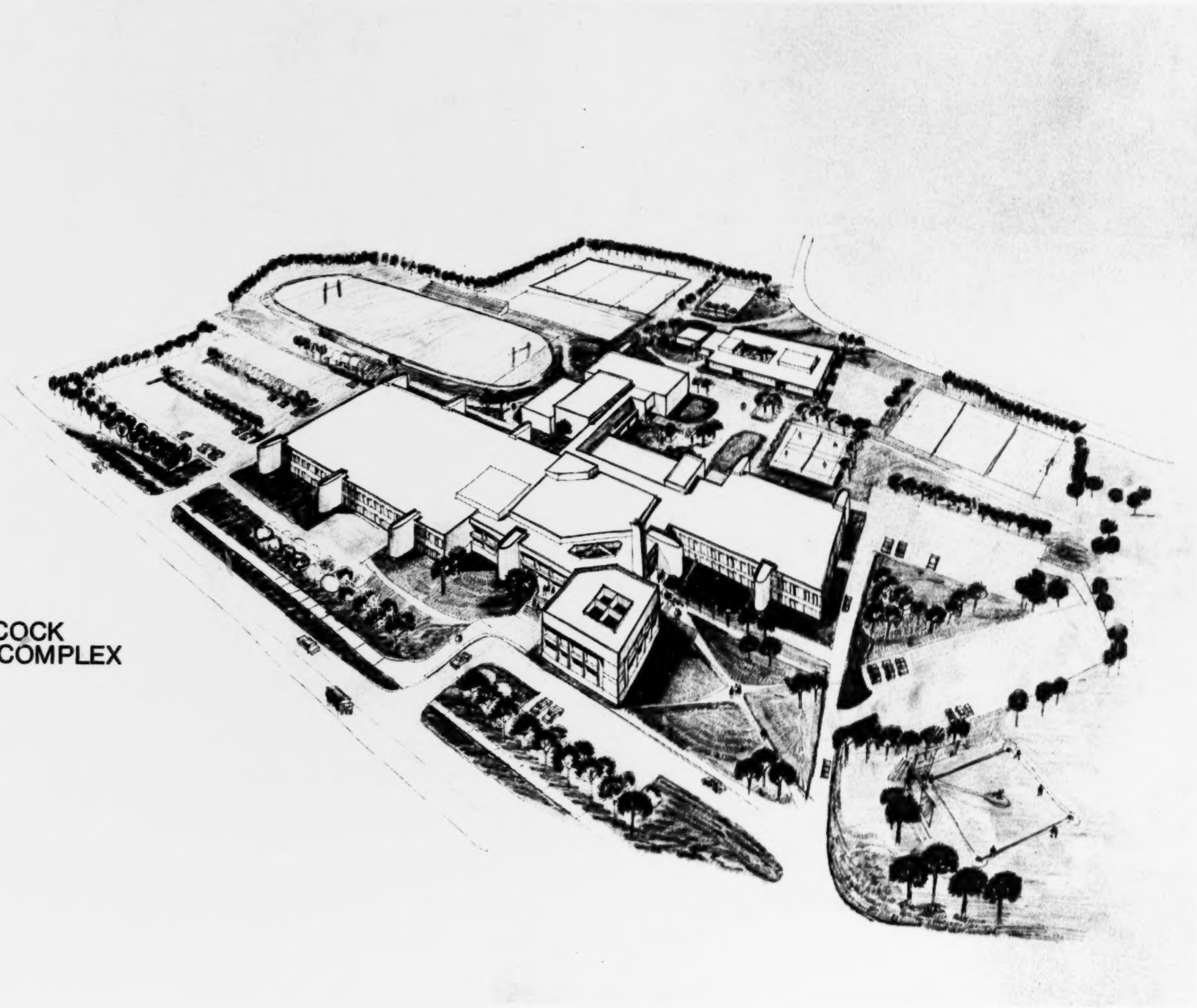
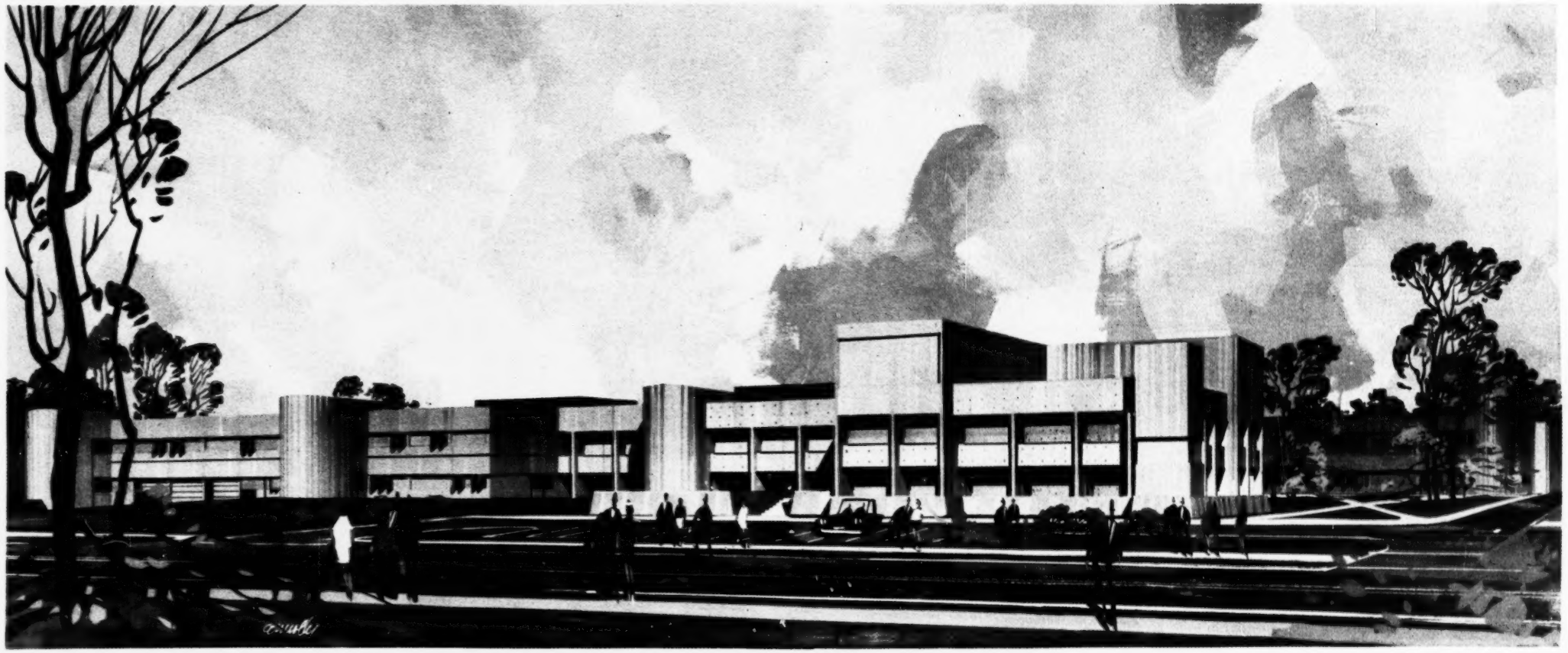
ELECTRICAL ENGINEERS - R. J. Black & Associates Limited

LANDSCAPE ARCHITECTS - Johnson, Sustronk, Weinstein & Associates Limited



STEPHEN LEACOCK
EDUCATIONAL COMPLEX



STEPHEN LEACOCK EDUCATIONAL COMPLEX

SCARBOROUGH BOARD OF EDUCATION ABRAM & INGLESON ARCHITECTS , TORONTO

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STEPHEN LEACOCK EDUCATIONAL COMPLEX

FOR

THE SCARBOROUGH BOARD OF EDUCATION

This educational complex, on 25 acres of land off Birchmount Road north of Sheppard Avenue and adjacent to 10 acres of park land, is the first Canadian attempt to provide a comprehensive educational environment to satisfy the demands for "flexibility" in the educational continuum from kindergarten to grade 13. The current philosophy of the Scarborough Board of Education divides this process into a five stage programme:

Junior School - Kindergarten to Grade 6 (The Pauline Johnson Junior Public School).
Senior School - Grades 7 and 8 (The John Buchan Senior Public School).
Secondary School - Grades 9 to 13 (The Stephen Leacock Collegiate Institute).

This complex integrates the three levels of learning into one campus providing facilities for 1260 collegiate pupils, 525 senior school students, 450 junior school students with a projected enrolment of 1800, 825 and 690 respectively.

<u>Educational Programme:</u>

A gradeless school can be set up offering:

- individual student programming
- individual subject promotion

- tri-mester system
- fewer subjects per semester
- more student options
- increased individual guidance
- many learning environments in each subject field
- teams of teachers
- a "credit" system for graduation and entrance to post-secondary levels

Architectural Implications:

The problem was to design an academic structure to accommodate present educational needs and provide for change in future educational philosophy and methods.

The complex includes: Central library and resources centre; special science groupings; auditorium-lecture theatre; group athletic facilities; classroom spaces for large and small group study; T.V. production training centre; shops; cafeteria; common facilities for health, guidance, food services, teachers' spaces, mechanical, electrical and janitorial services; a fully conditioned environment; outdoor spaces; parking; playgrounds, etc. The magnitude of the project allows for the development of new component systems on a scale not normally in effect for the usual school project, thereby effecting an economy of time and labour.

After a careful analysis of the educational programme, it was obvious that the logical synthesis of parts would find the Collegiate and Senior Schools sharing such common areas as Auditorium-Lecture Theatre, Cafeteria, Athletics, Guidance, Health, Audio-Visual, Educational T.V., Teachers'

spaces and mechanical, electrical and service spaces. In this arrangement the two schools would gain the desired availability and diversity of spaces and facilities that they would not normally have as separate schools, thereby resulting in a better school at a comparable cost. The Junior School could take advantage of the common mechanical, electrical and service facilities and outdoor spaces of the Senior School - Collegiate group.

The grouping of the three school facilities on one site allowed for more meaningful site relationships between the schools in terms of outdoor spaces and sports facilities, pedestrian circulation, mechanical distribution, service access and community use and, of course, the physical manifestation of a "student village" concept.

The arrangement of the school into classroom, "academic" blocks and common areas was a logical development of the need for easy convertibility and versatility in the academic areas, as opposed to the very specific, volumetric and functional determinants of such spaces as the Gymnasia, Auditorium-Lecture Theatre, Cafeteria and Library.

Classrooms: After extensive research into the demands for "classroom" type teaching spaces, it was concluded that a typical unit which would satisfy both present and future

needs must allow for: Short term and long term convertibility into smaller seminar spaces, standard classroom, and large-group spaces; the most recent developments in Audio-visual, Educational T.V.; teachers' work areas; and an integrated structural, mechanical and electrical system which would provide for these changing needs.

Auditorium-Lecture Theatre: The Auditorium-Lecture Theatre is designed to accommodate 1000 students. The space is so arranged that it can be subdivided by operable walls, into four separate spaces of 150, 150, 300 and 400 seats. The lecture spaces are surrounded by seminar rooms, thereby providing the immediate relationship of large group instruction to small group discussion. Each space is designed to accommodate all necessary audio-visual aids. A thrust stage for lecture and drama presentations is portable and can be moved to provide additional seating or orchestra space. All music rooms have a direct connection to the auditorium-lecture theatre.

Library: The Library of approximately 7500 sq.ft. provides a variety of spaces for the various library activities. The first level accommodates the major stack and reading areas, reference area, control, librarian work rooms and audio-visual centre. The upper level provides space for individual study carrels, audio-visual study rooms, teachers' work area and a library classroom space. The location of the library on the

perimeter of the school plan and at the junction of the movement patterns, enables it to grow and change as the demand dictates, enables a segregation for community use, if required, and emphasizes the role of the library in the educational process.

An elevator, located in the foyer adjacent to the library can move audio-visual equipment, books, and supplies from the basement receiving and storage areas to all levels of the library and the school.

Cafeteria: Space for 800 students is provided in the cafeteria. Although there is only one kitchen and one servery, the cafeteria dining area is divided into two areas by means of a two-level space. This implied division of space allows for a natural gathering spot for the two schools, provides for a stage level and a secondary drama area and also permits the cafeteria to be subdivided for study and examination purposes. This space opens directly to an outside dining and gathering place.

Laboratories: The science laboratories are arranged in groups of fours, with each group around a central preparation room. These laboratories may be enlarged or subdivided as required.

Typing Rooms: The typing rooms have been arranged to provide one large group typing space or three smaller spaces.

Home Economics: One large Home Economics space is provided which is planned to accommodate a variety of instructional and practice spaces, instead of the usual subdivision of the Home Economics department into two separate rooms.

Television Production Technique Shop: Located below the auditorium-lecture theatre and adjacent to the drama and music rooms, this shop provides practical experience for the students.

The shop includes a classroom area, a control room and two studio areas. The one studio is for televising lectures or small panel discussions, the other studio for larger lectures and theatrical productions.

Athletic Area: A variety of gymnasium and exercise areas are provided for the Collegiate and Senior Schools. A swimming pool, primarily for Collegiate use, is readily available for the Senior School and for the Junior School. A common changing room is divisible into three areas; collegiate, senior school and team rooms, all of which may be incorporated into one large space for community use. Outdoor areas include a football field, 440 yd. track, two major soccer fields divisible into six smaller fields, hard surface play area, tennis and ice surface, a major baseball diamond and parking for approximately 400 cars. The majority of these facilities are operated on a shared basis with the Parks and Recreation Department.

Teachers' Areas: The staff of the Senior School and the Collegiate share lounge and dining facilities and, to some extent, work areas. The classroom units in the collegiate contain teacher work rooms within the four classroom cluster.

Service Areas: The major mechanical plant is situated at the centre of the complex, facilitating easy distribution to the three schools. A common mechanical and electrical system is able to provide year 'round, fully conditioned air to all schools at a cost comparable to existing school systems. This is achieved by a "heat pump" installation.

ABRAM & INGLESON, ARCHITECTS

STEPHEN LEACOCK EDUCATIONAL COMPLEX

Appendix 'A'

Auditorium-Lecture Theatre

The Auditorium-Lecture Theatre has a variety of possible uses. Its main attribute being a space that is used for a maximum amount of time - available not only for educational use but also for many other groups within the community.

Flexibility, achieved by means of mechanically retractable "double coil-wall" units, allows each space to function independently or as a part of the whole, with a minimum amount of disturbance to related areas. The individual lecture areas have been acoustically designed as a part of the whole, or as separate units, with sound isolation attained by the "double coil-wall" units.

There is a direct access from the Stage area to the Drama, Music and T.V. Departments. Ancillary accommodation includes a projection room, dressing rooms and stage work areas.

The major functions of the Auditorium-Lecture Theatre:

1. Independent and simultaneous use of the principal rooms.

2. Assembly (Collegiate): seating 1000; all movable walls open.

3. Assembly (Senior Public School): seating 450; proscenium stage; all movable walls closed.

4. Lecture (150): two sections each seating 150, two operable walls closed.

5. Lecture (300): centre section, one operable wall closed.

6. Lecture (400-450): front section, all operable walls closed; 400, with thrust stage out; 450, with thrust stage retracted.

7. Lecture (1000-1100): all sections open; 1000, with thrust stage out; 1100, with thrust stage retracted.

8. Theatre (700-1100): for 700 two outside sections closed, projection from booth to stage; for 1100, all walls open and thrust stage retracted.

9. Drama, Musicals (1000): thrust stage out; small orchestra on floor level or rear stage level.

10. Drama, Musicals (400-500-700-850): variety of seating arrangements to suit type of drama; traditional proscenium stage or thrust stage.

11. Drama (1000): theatre-in-the-round; thrust stage, additional seating rear stage.

12. Opera (400-1100): variety of seating arrangements; with traditional or thrust stage or both; small or large orchestra.

13. Ballet (400-1100): variety of seating arrangements; with traditional or thrust stage, or both; small or large orchestra.

14. Commencement (1000-1200): seating on stage and floor level, thrust stage retracted; graduating classes on stage.

15. Orchestra, Choir, Recitals (400-1100): variety of seating arrangements; orchestra small or large on floor level or on stage (chair arrangement similar to orchestra); with traditional or thrust stage, or both.

16. Community uses: public speaking, church services, political rallies, travelling cultural groups, etc.

collegiate :

19 Standard Classrooms
4 Seminar Rooms
1 Lecture Room
6 Laboratories
11 Special Classrooms
5 Shops
2 Gymnasia
1 Pool
1 Library
1 Cafeteria
1 Auditorium
Administration
Ancilliary & Services

senior :

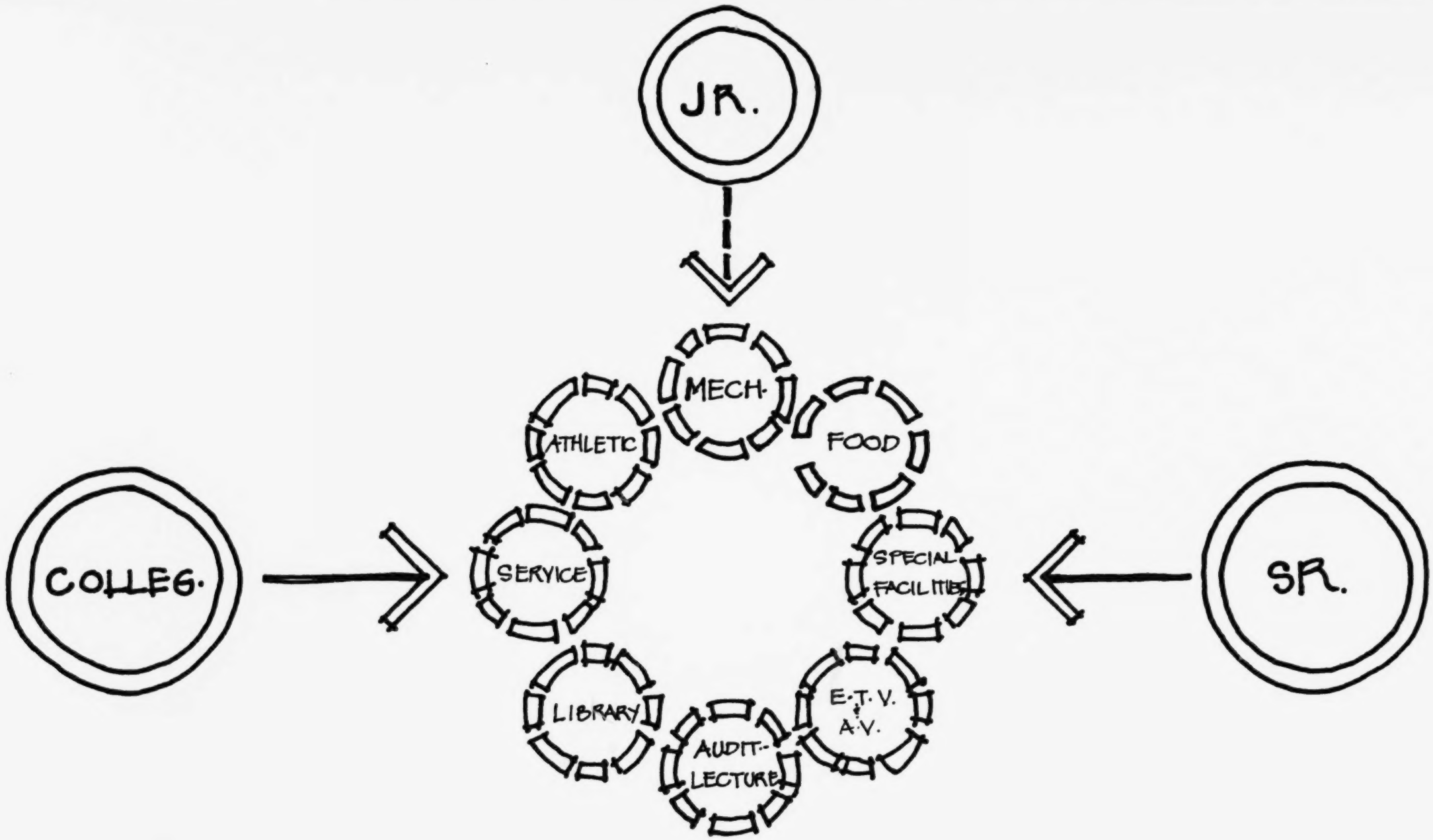
8 Classrooms (+ 10 Future)
1 Geography Room
1 Music Room
1 Art Room
1 Science Room
1 Home Ec. & Indus. Arts
1 Gymnasium (+ 1 Future)
1 Library
1 Multi-purpose (Lunch, A.V. Lecture)
Administration
Ancilliary & Service

junior :

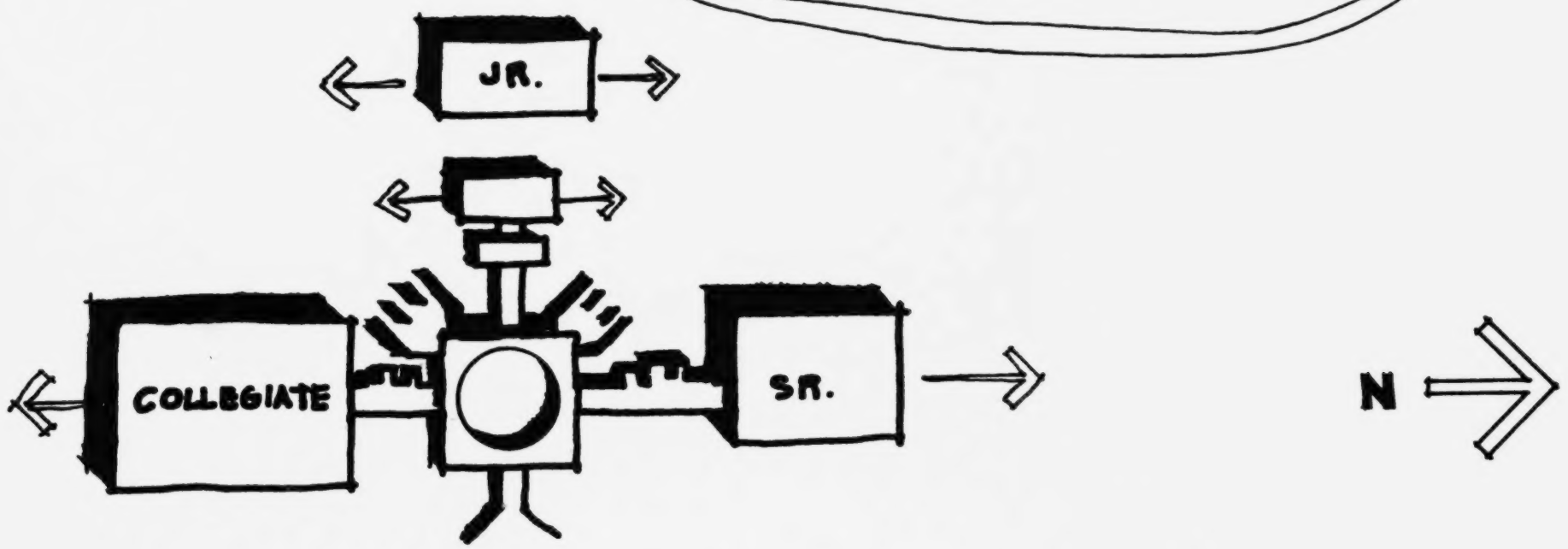
18 Classrooms
2 Kindergartens
1 Library
1 General Purpose
Administration
Ancilliary & Services

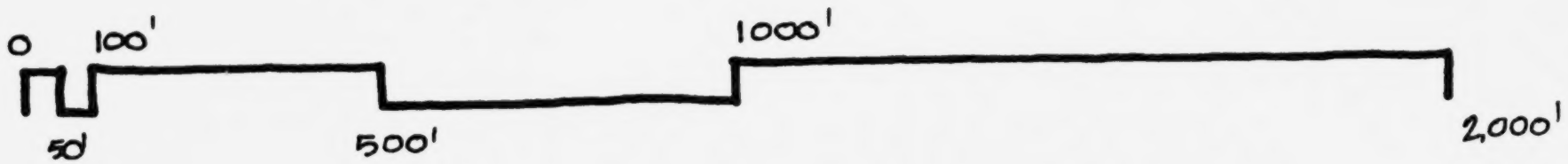
now :	1276	525	450 pupils
future :	1820	875	690

programme :

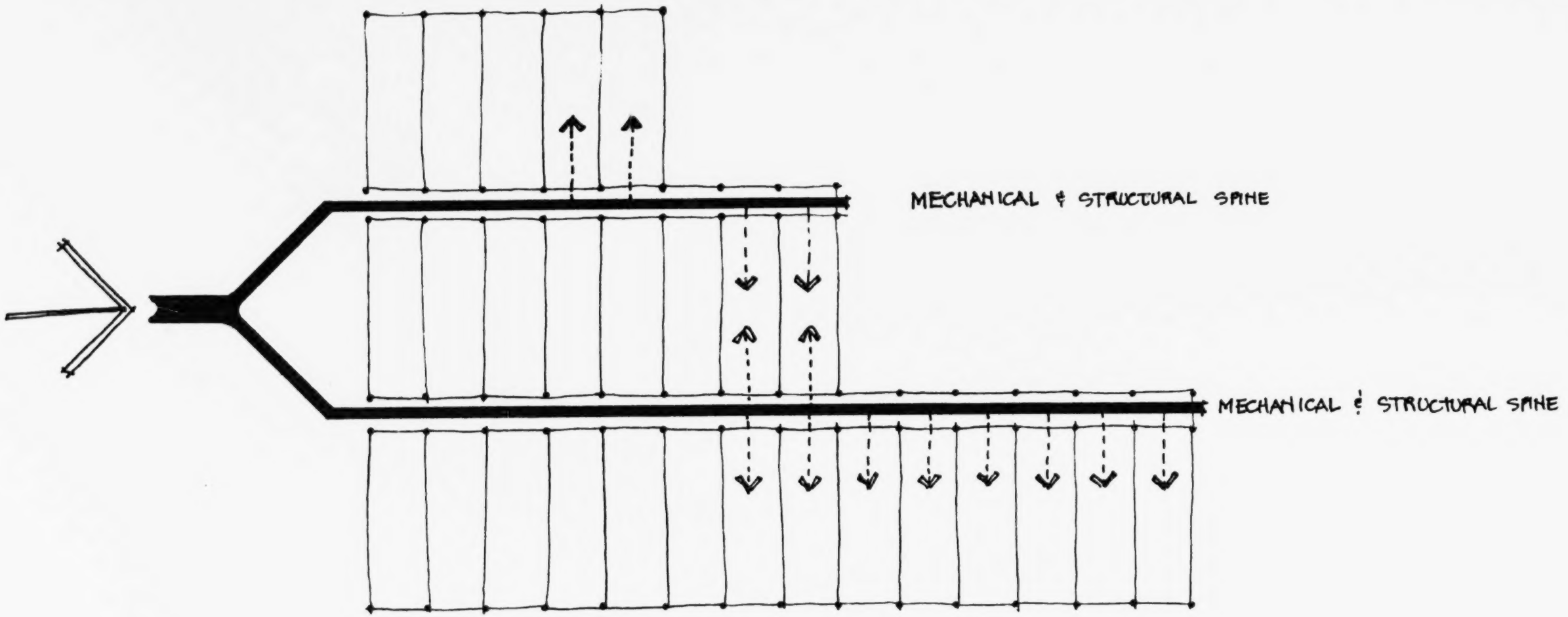


common facilities



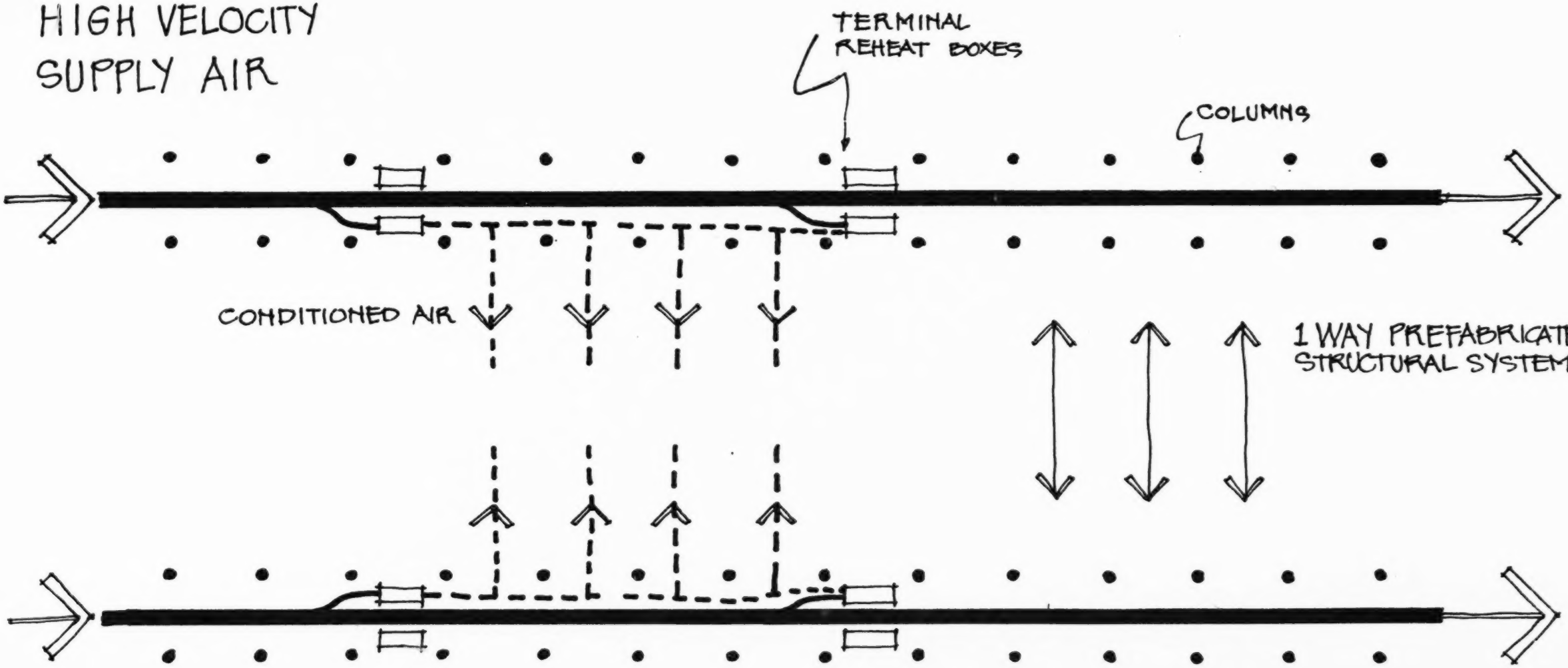


schematic : growth potential

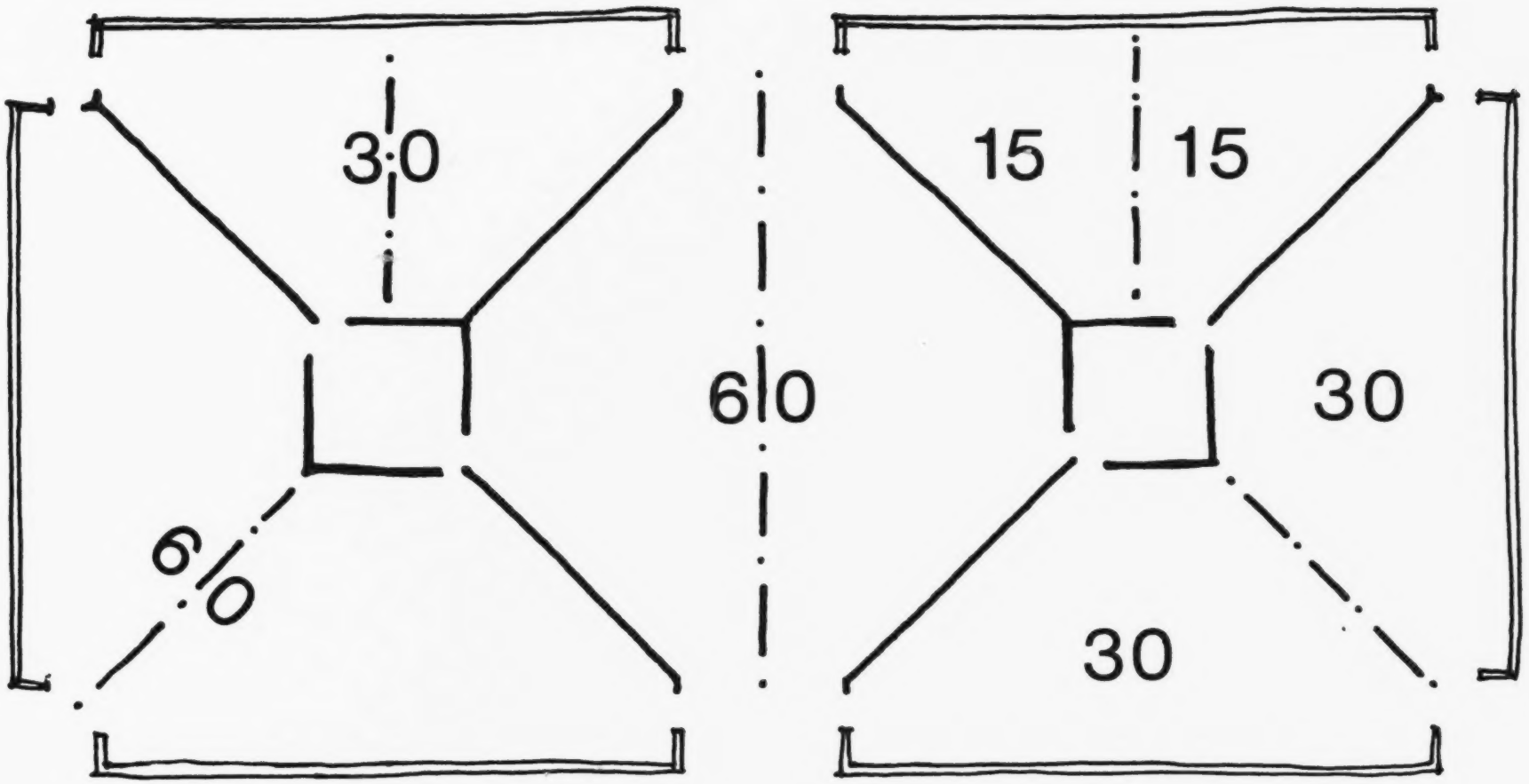


system of growth

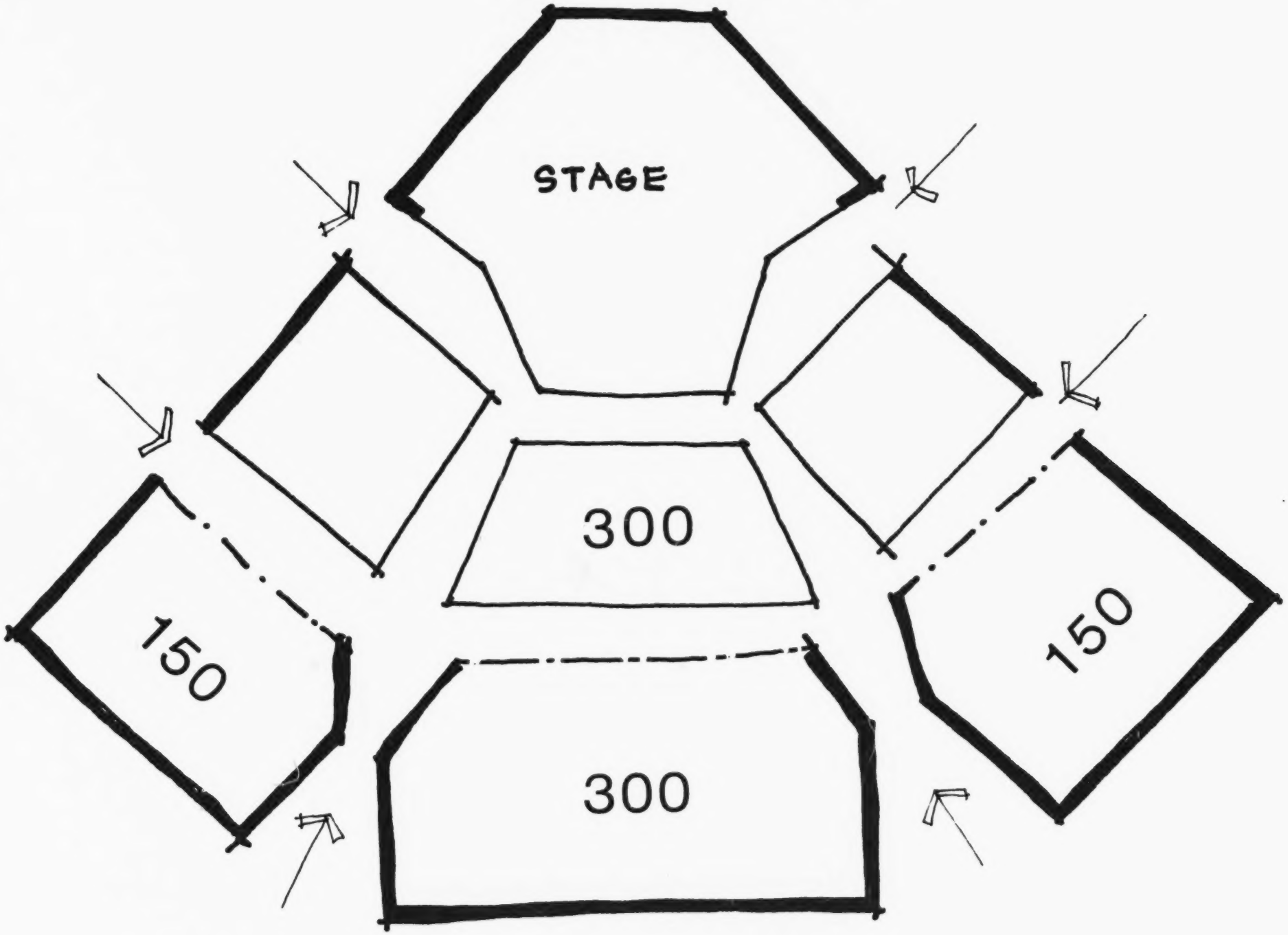
HIGH VELOCITY
SUPPLY AIR



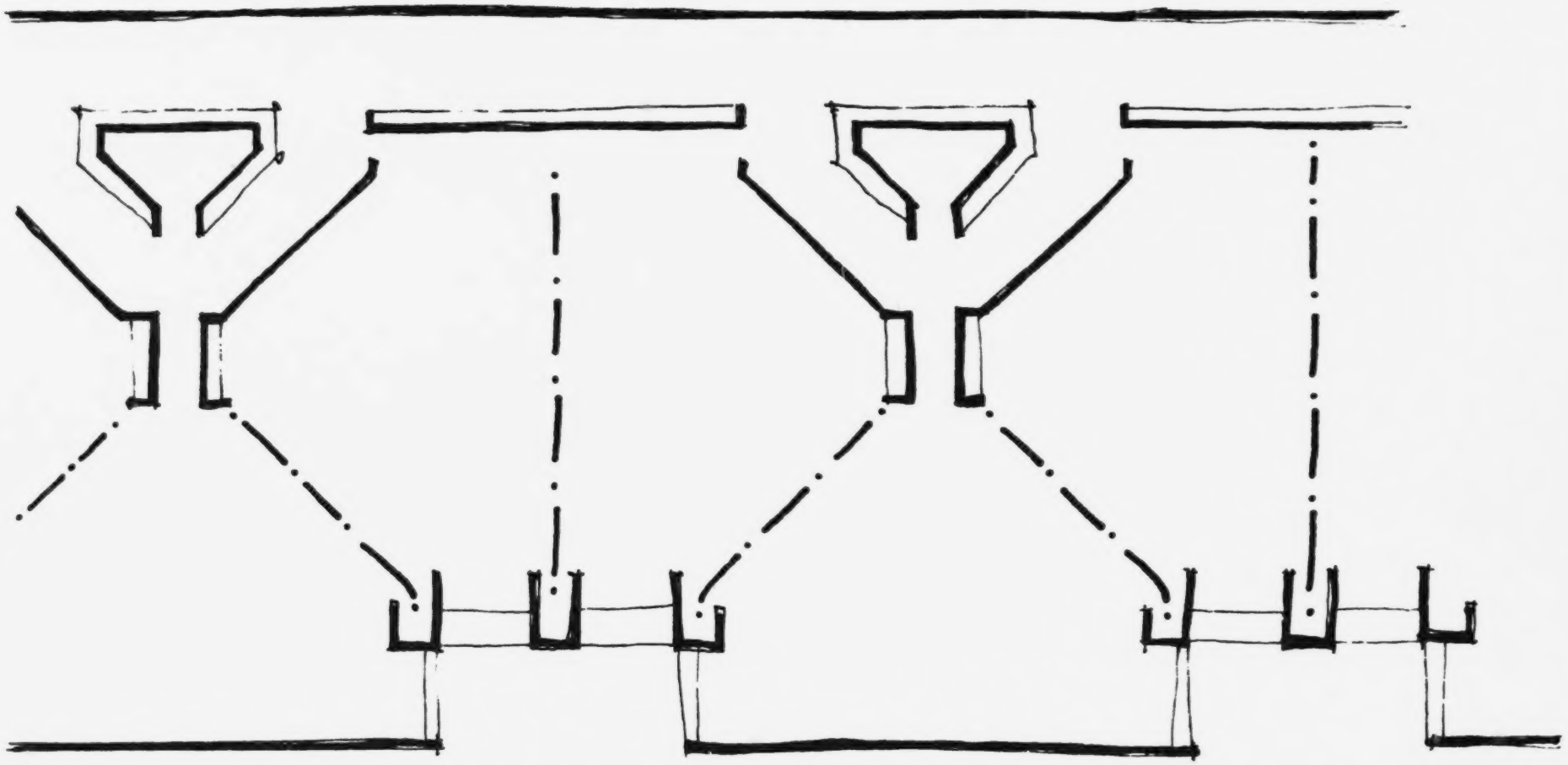
structural & mechanical system



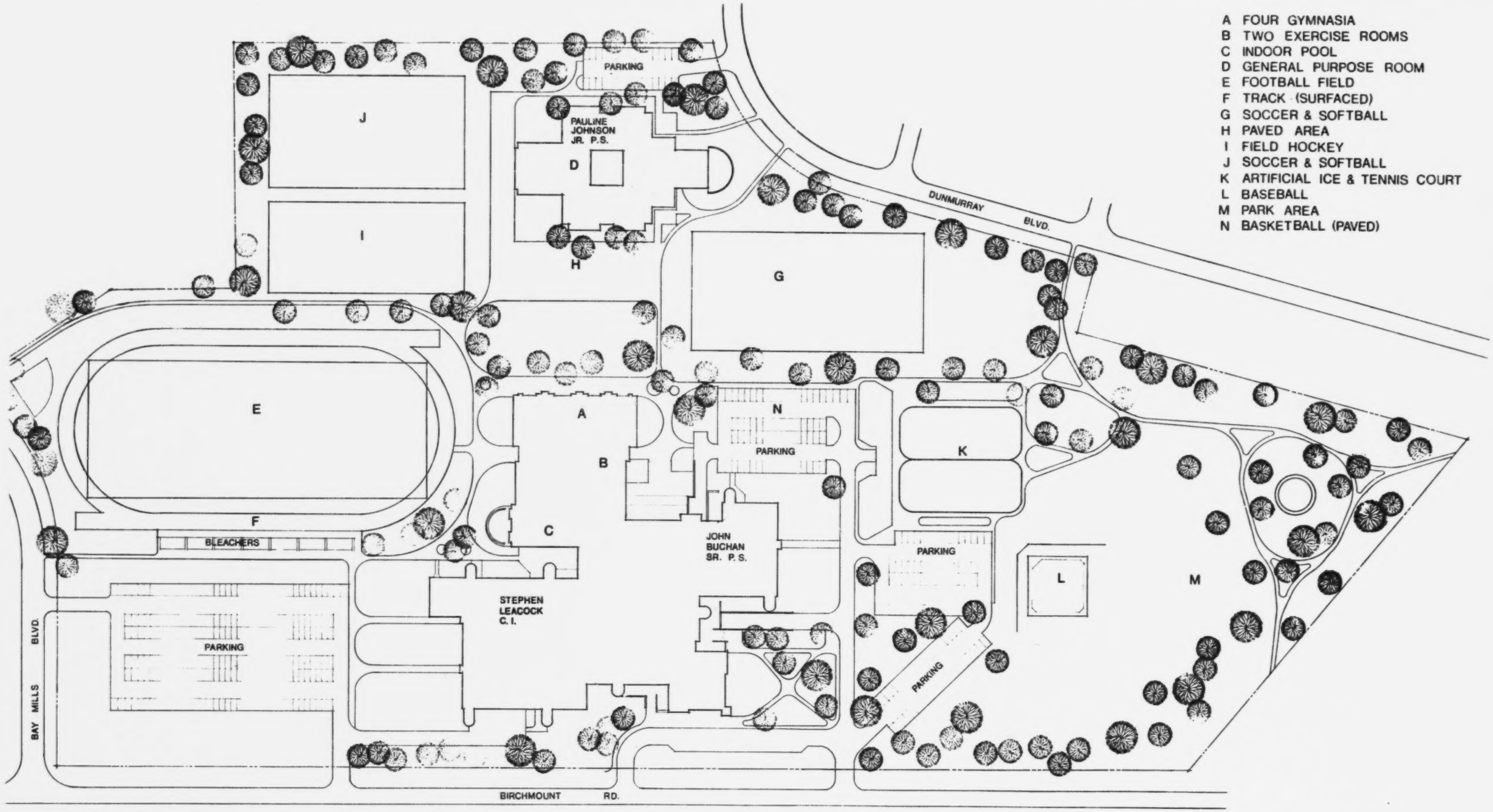
typical unit (collegiate classrooms)



auditorium · lecture



typical unit (junior classrooms)



STEPHEN LEACOCK EDUCATIONAL COMPLEX

Scarborough Board of Education Abram & Ingleson Architects

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T-139
NOV.
1968

SITE PLAN

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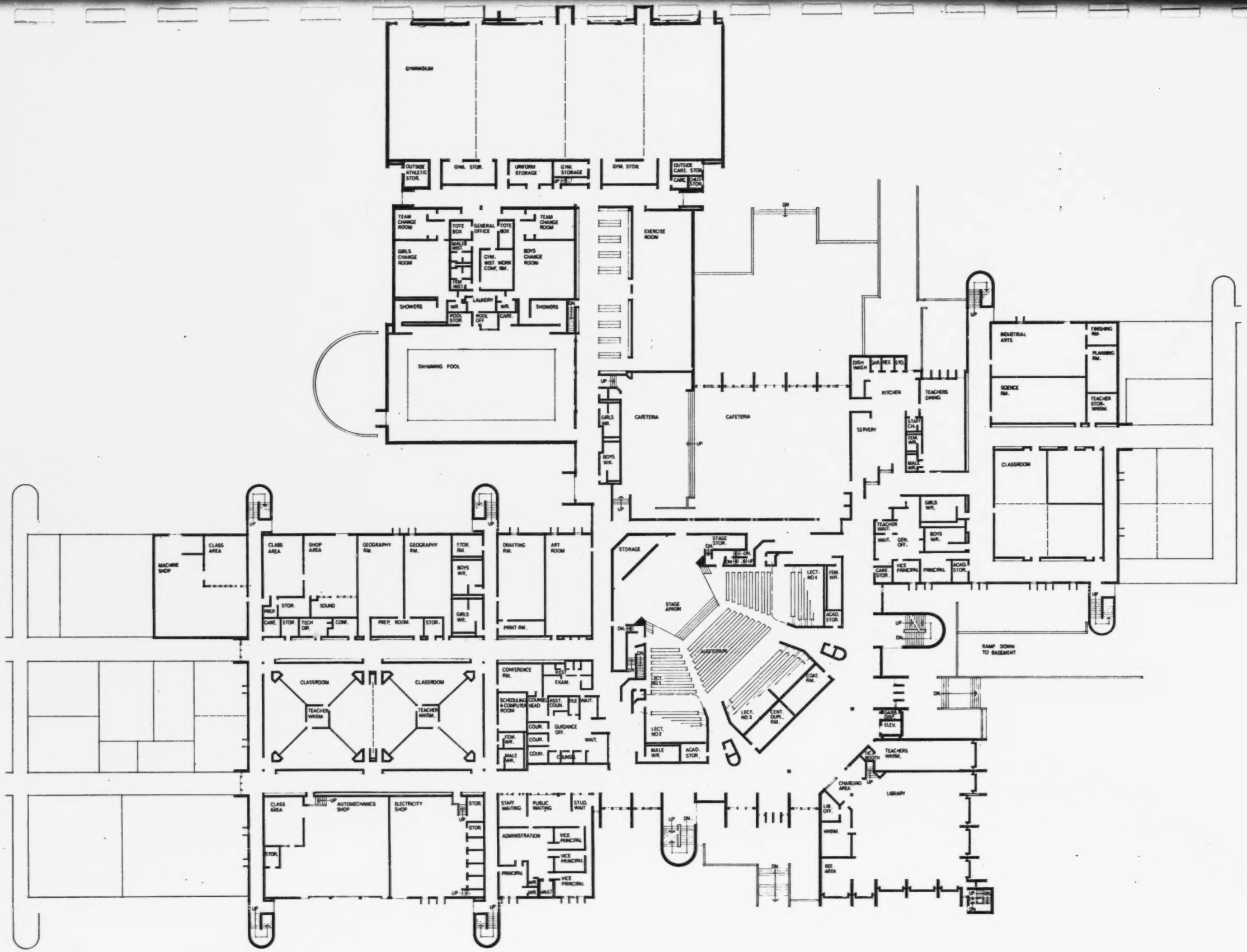

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T-139

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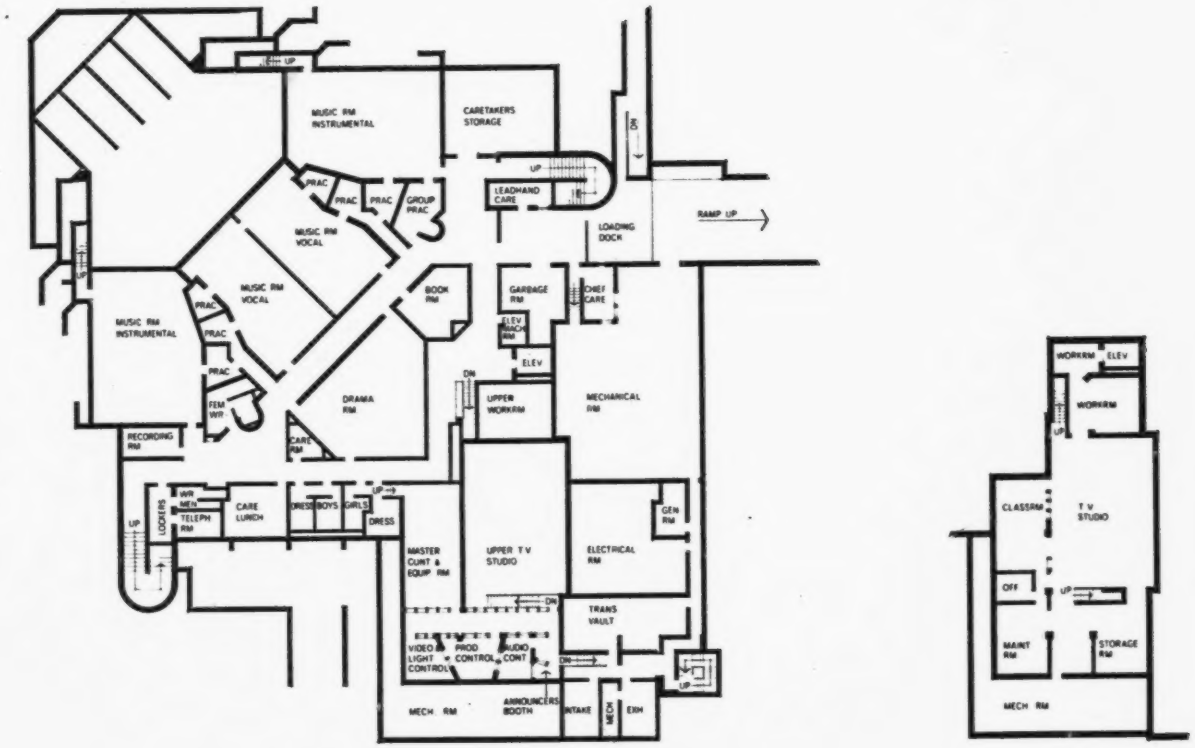

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1966

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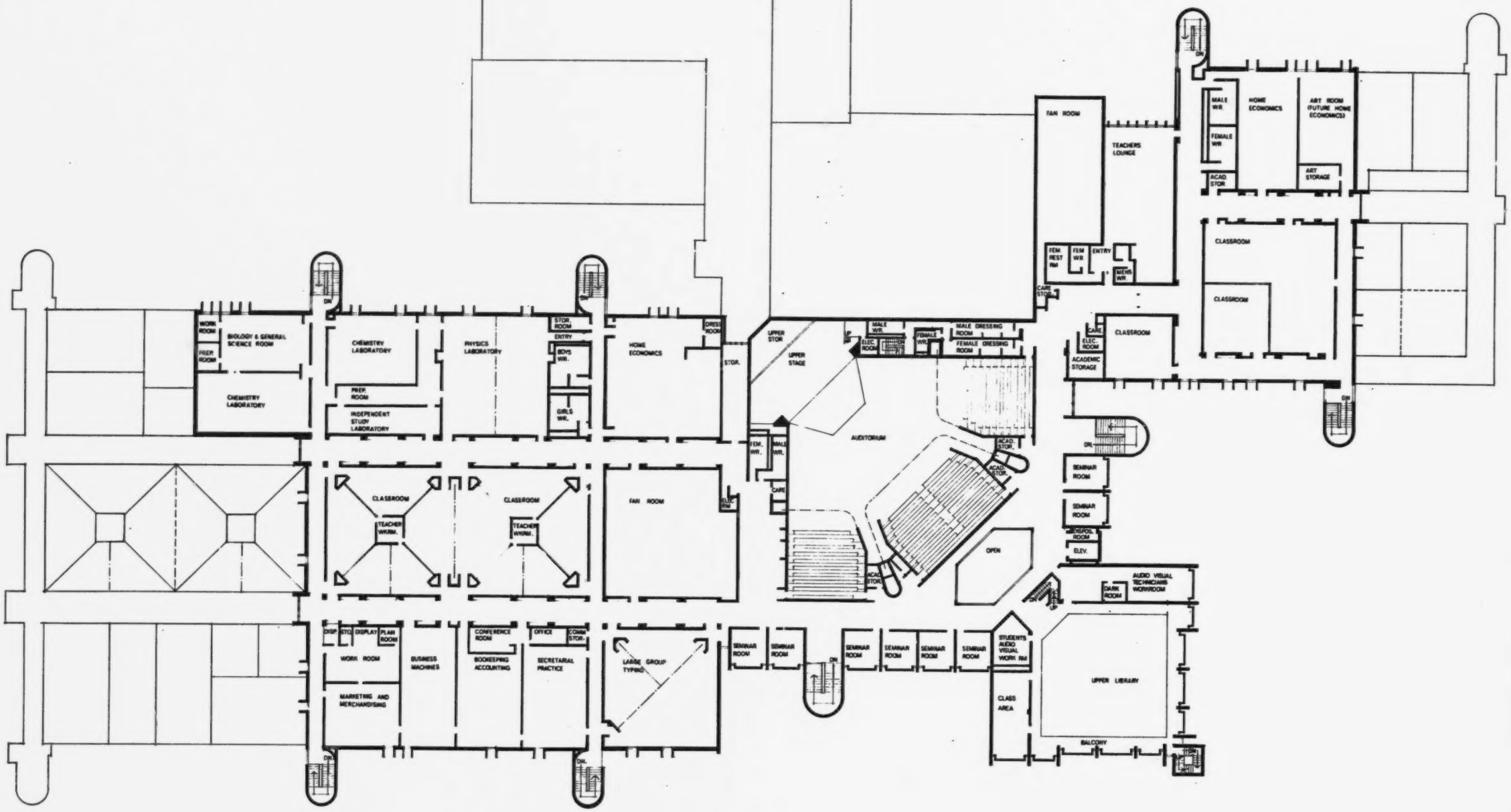

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SECOND FLOOR PLAN

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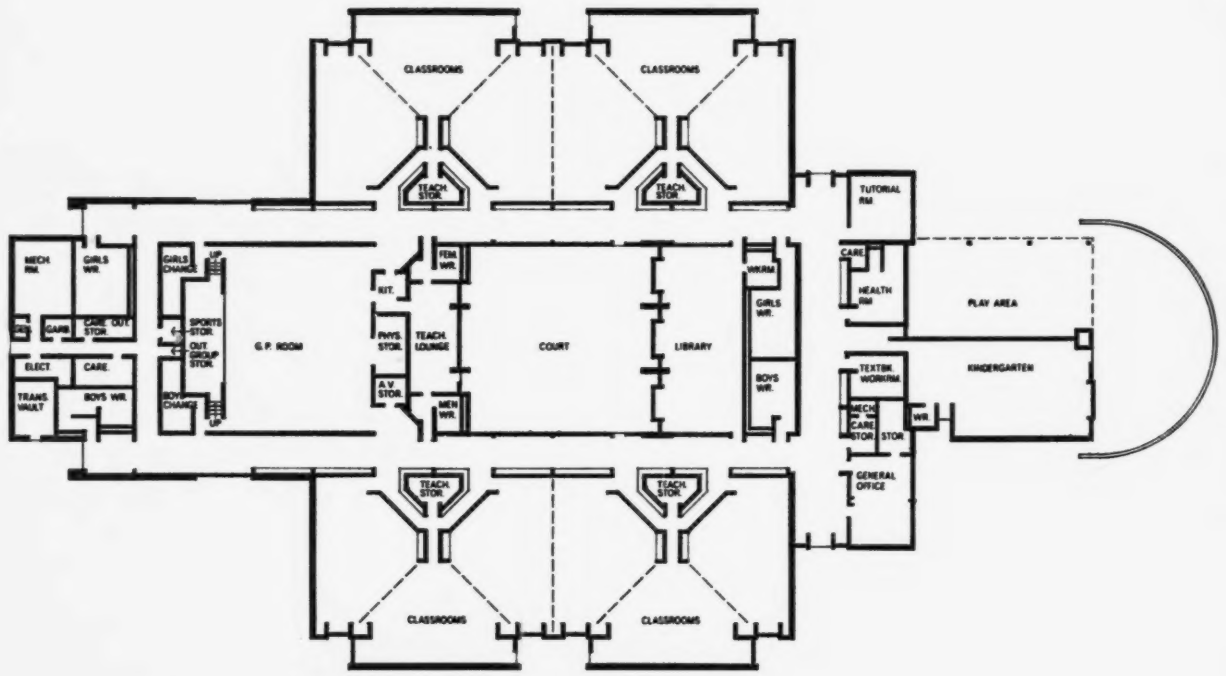

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Scarborough Board of Education Abram & Ingleson Architects

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T-139
NOV.
1968

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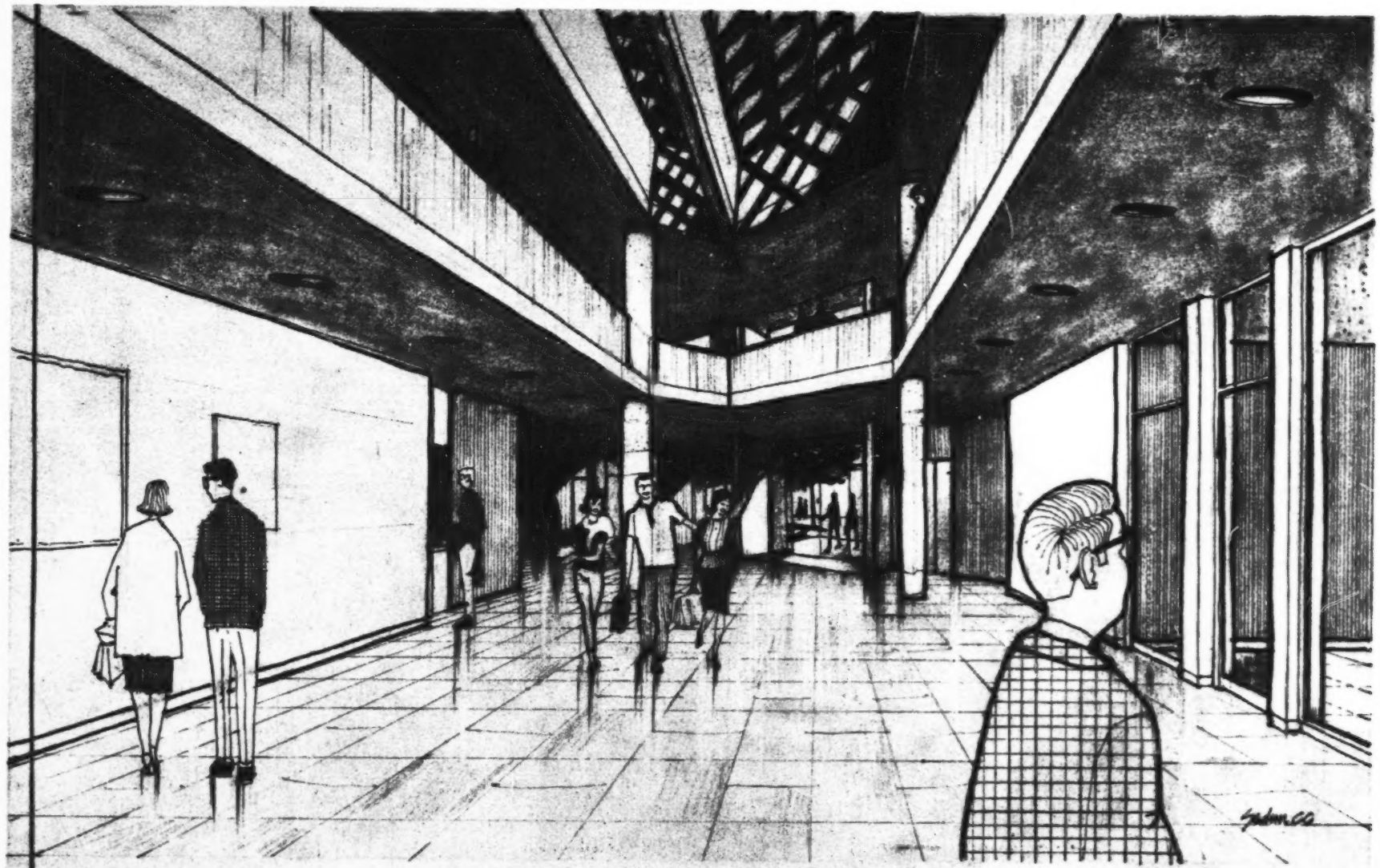

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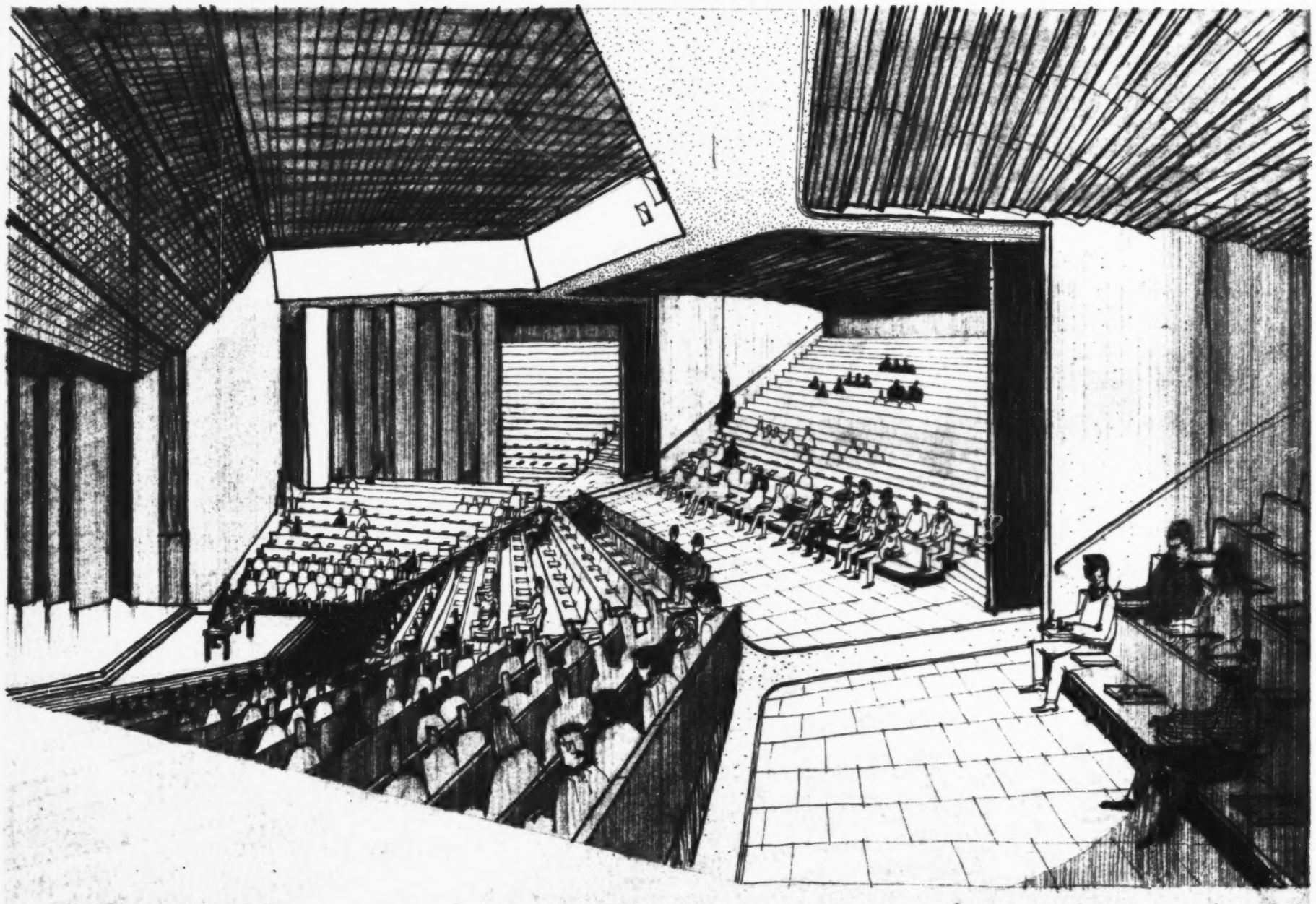
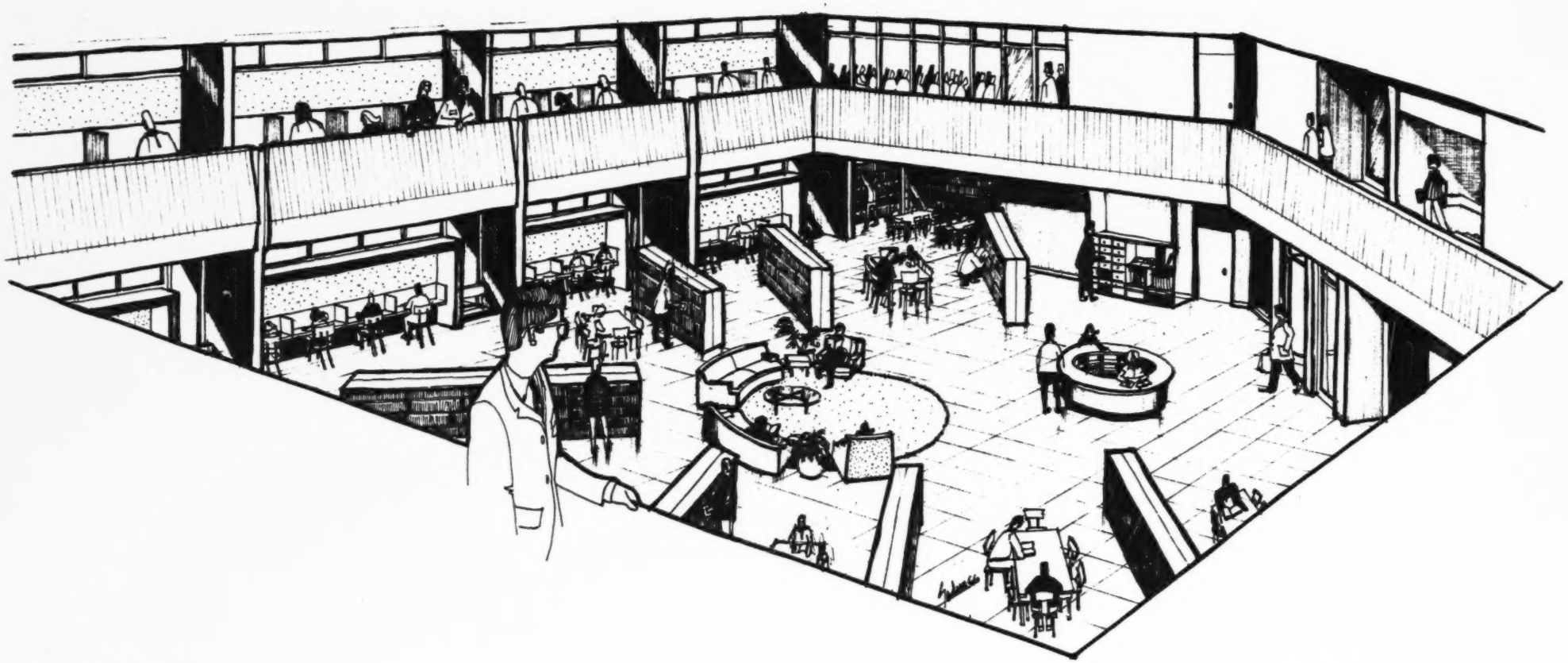
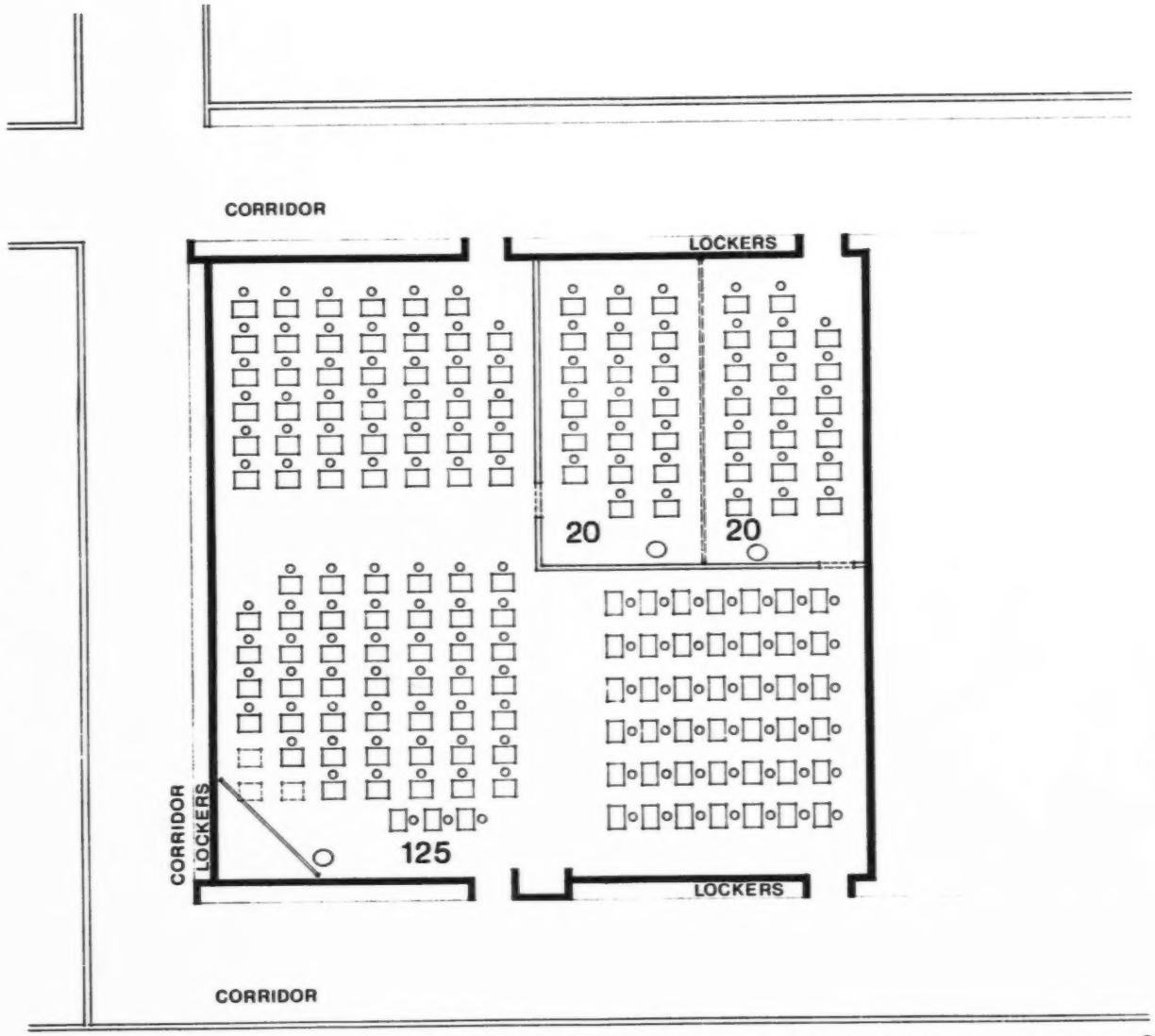


AUDITORIUM - LECTURE



LIBRARY



SENIOR PUBLIC SCHOOL
A

SEMI - PERMANENT WALLS
DEMOUNTABLE
OPERABLE
INSTRUCTIONAL SURFACES

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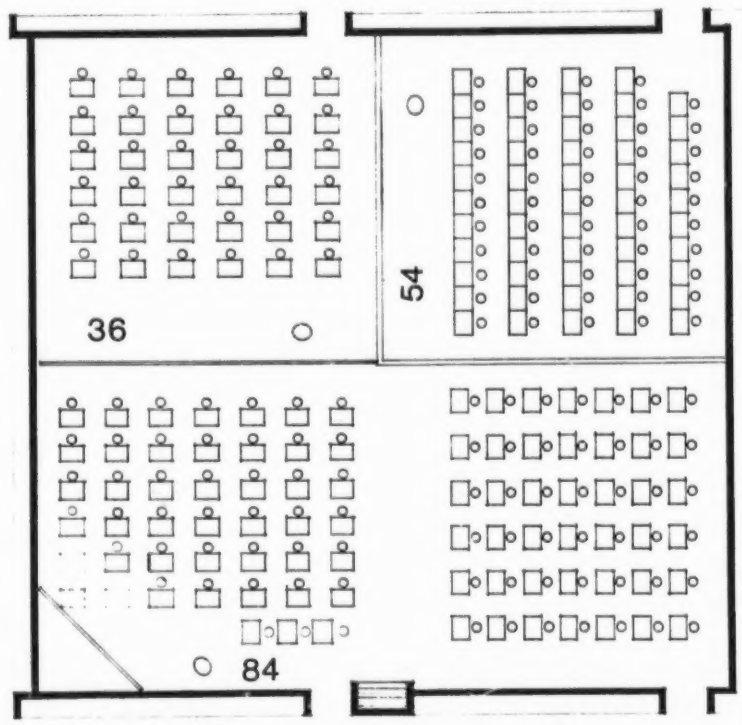

B

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INSTRUCTIONAL SURFACES

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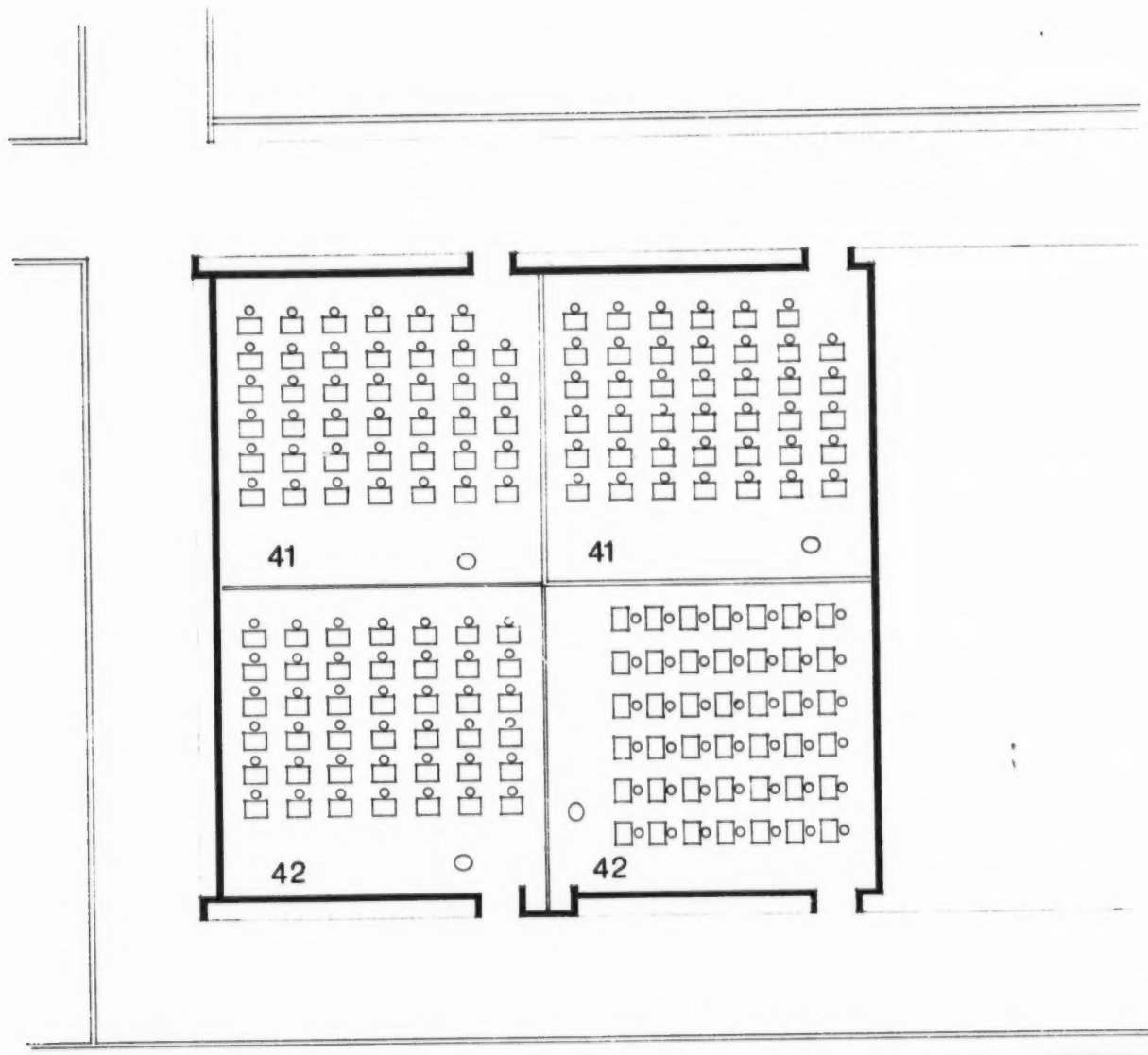

C

SEMI-PERMANENT WALLS
DEMOUNTABLE
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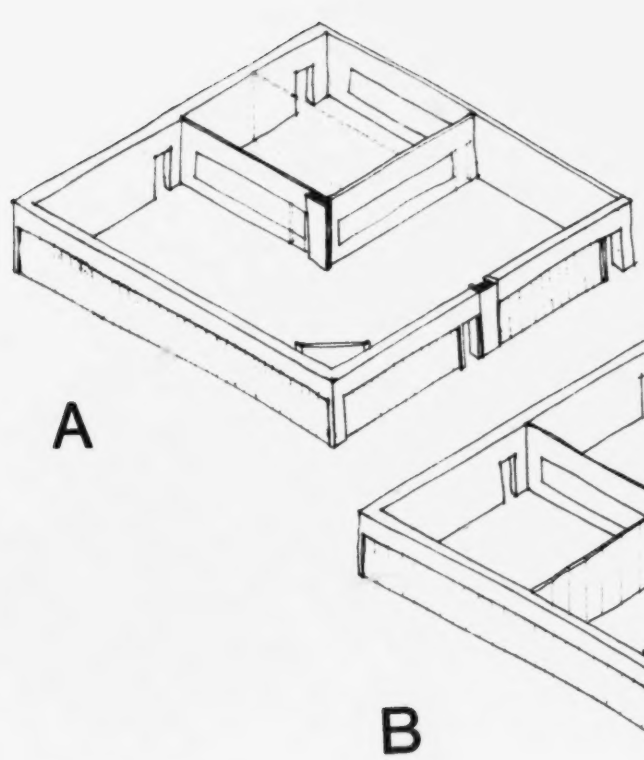

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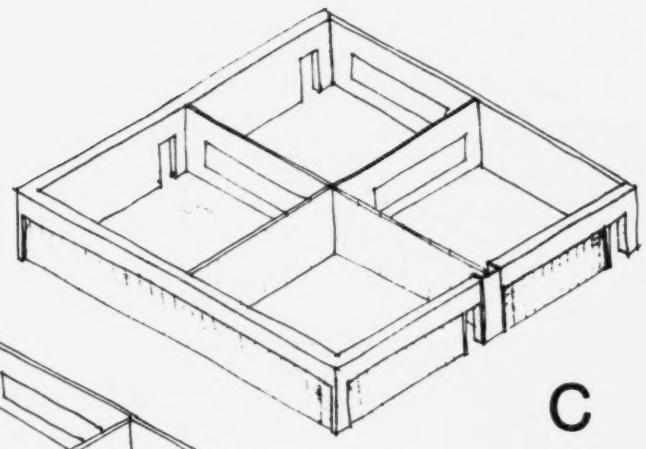

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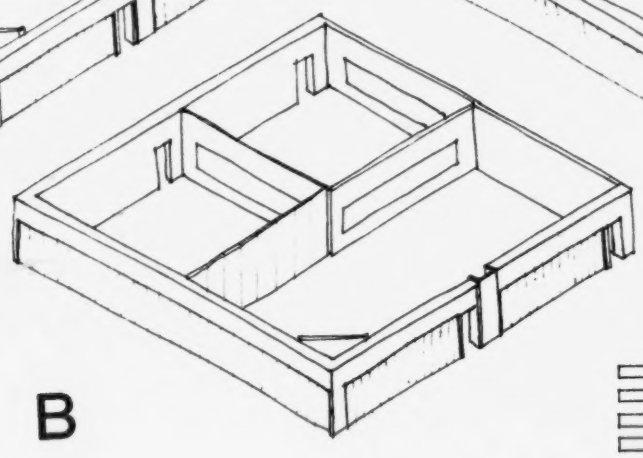
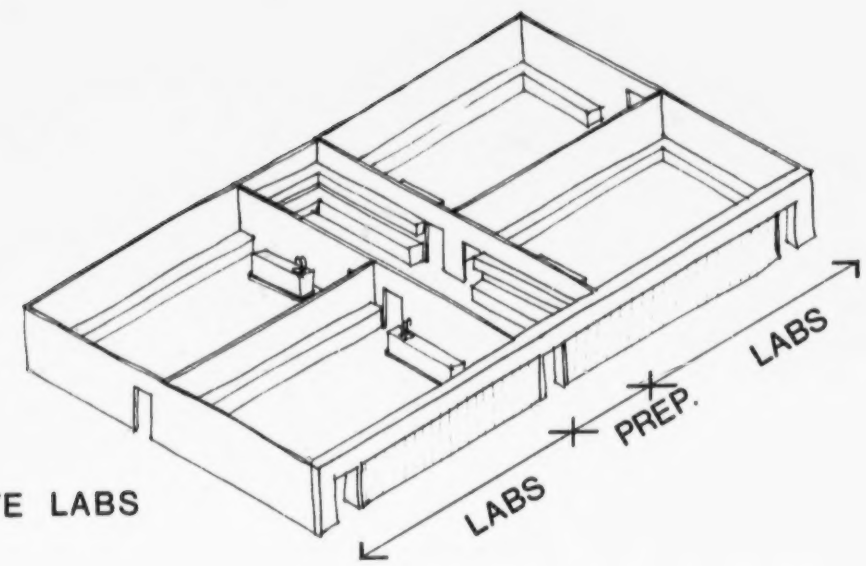


B

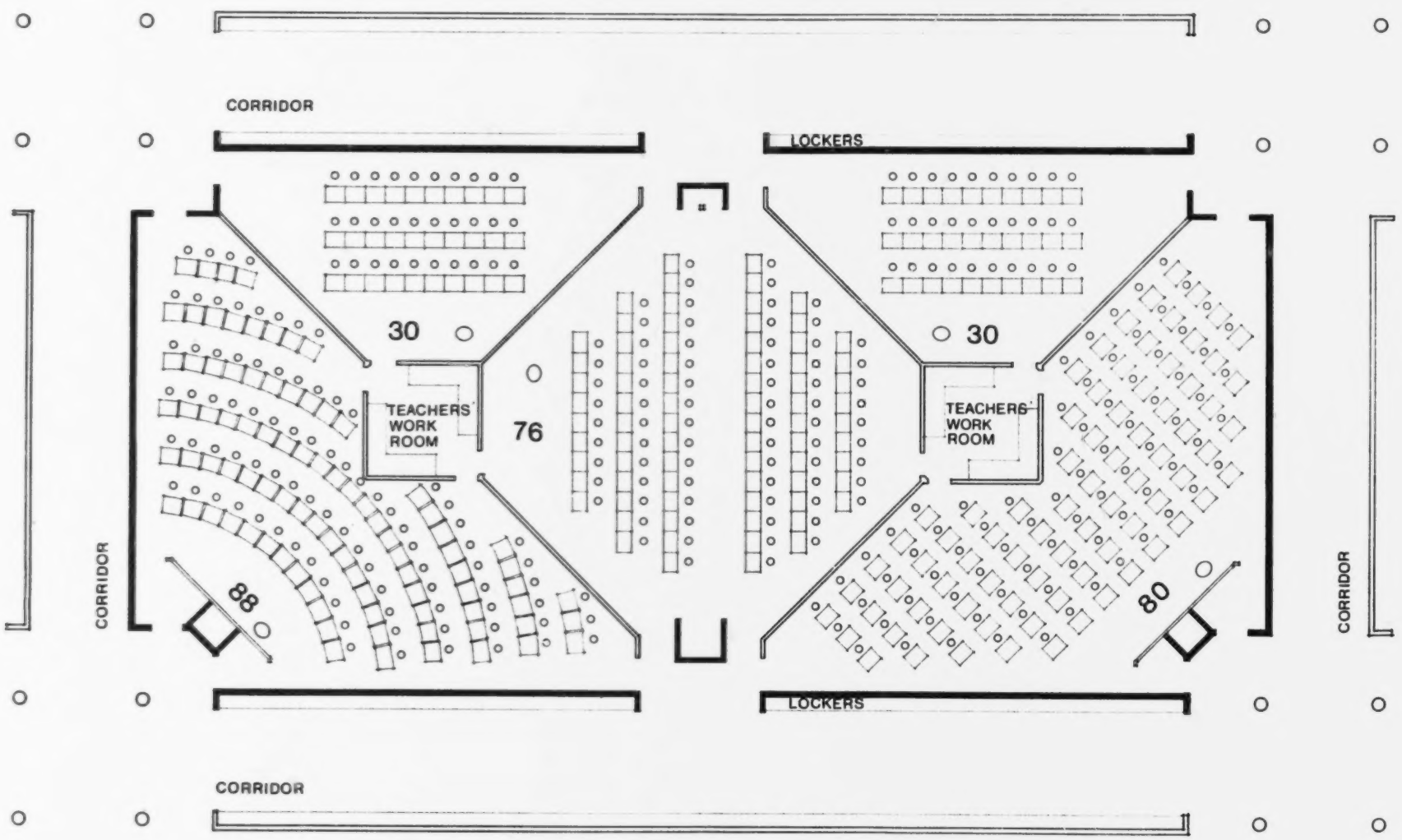
SENIOR PUBLIC SCHOOL

SEMI-PERMANENT WALLS
DEMOUNTABLE
OPERABLE
INSTRUCTIONAL SURFACES



COLLEGIATE LABS

NOV 1966



COLLEGIATE A

SEMI-PERMANENT WALLS
DEMOUNTABLE
OPERABLE
INSTRUCTIONAL SURFACES

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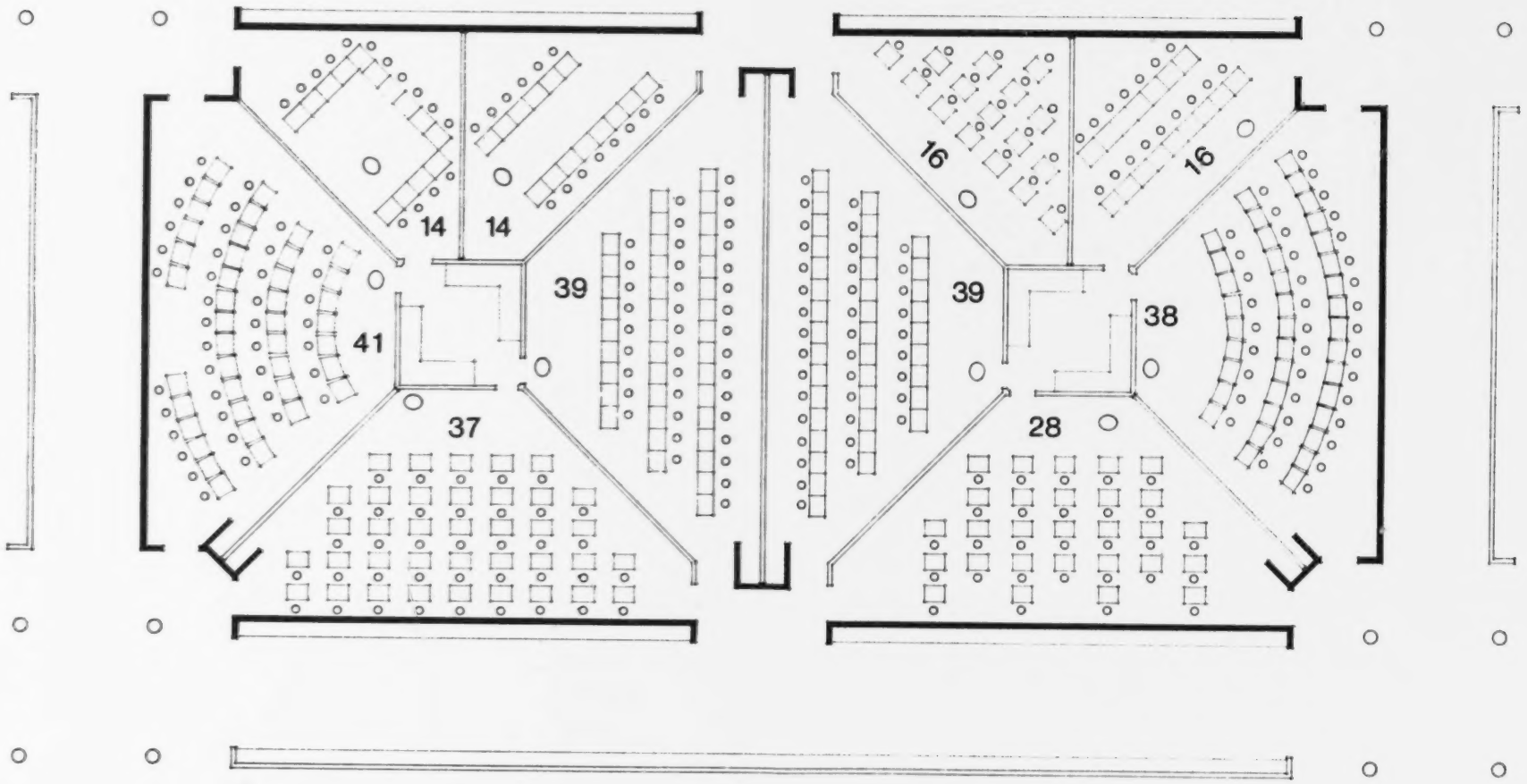

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SEMI-PERMANENT WALLS
DEMOUNTABLE
OPERABLE
INSTRUCTIONAL SURFACES

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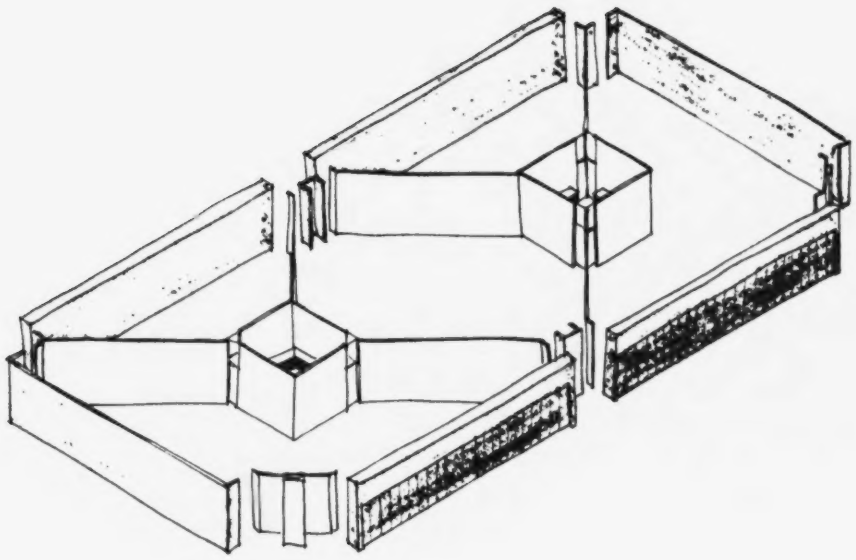
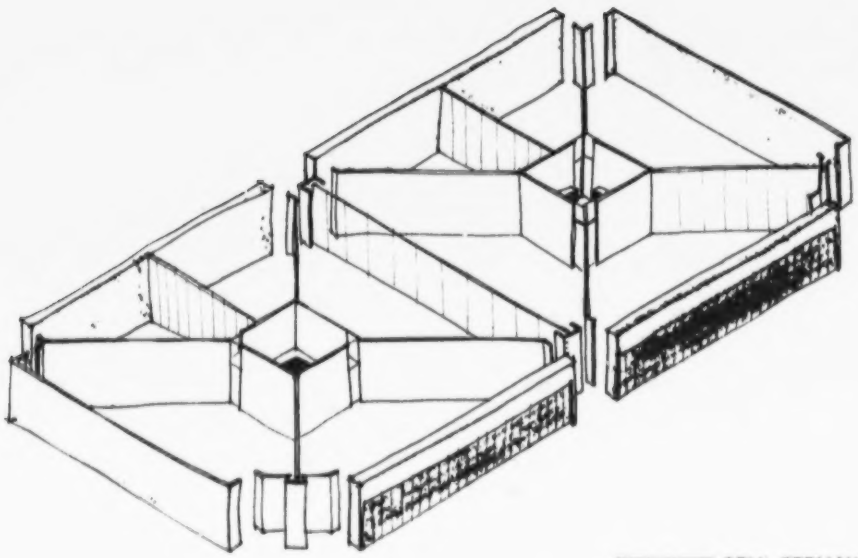
A



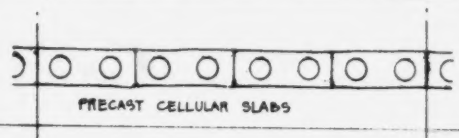
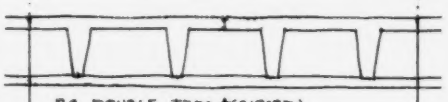
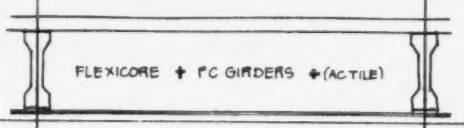
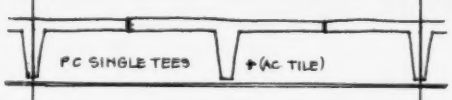
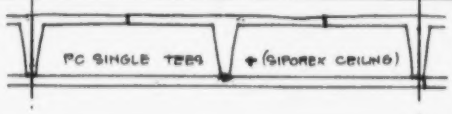
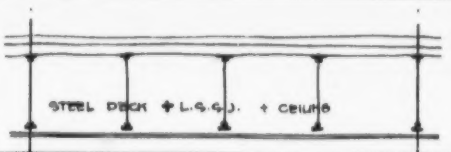
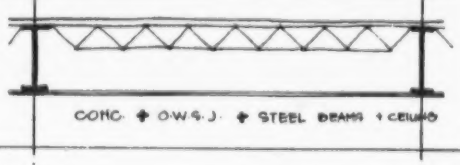
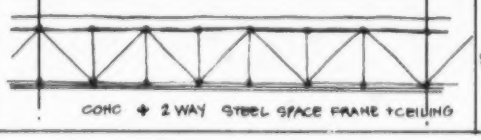
B



SEMI-PERMANENT WALLS
DEMOUNTABLE
OPERABLE
INSTRUCTIONAL SURFACES

COLLEGIATE CLASSROOMS

NOV 1966

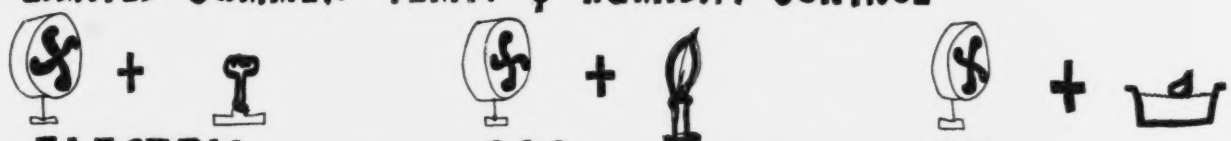
	CONCRETE :	COST P.SQ.FT.	DEPTH	CEILING	CARPET	CEILING BAFFLES	DUCTS REQ'D.	PARTITION TOLERANCE	LIGHTS	FIRE-PROOF. REQ'D.
1	 PRECAST CELLULAR SLABS	$8.70	21'	NO	YES	NO	NO	CRITICAL	SURFACE	NO
2	PRECAST BOXES	$7.18	24'	"	"	"	"	"	"	"
3	PC DOUBLE TEES + (AC TILE)	$4.88	33"	OPTION.	OPTION.	"	YES	NORMAL	S or R.	"
4	 PC DOUBLE TEES + (SIPOREX)	$6.21	33'	"	NO	"	NO	"	S.	"
5	 FLEXICORE + PC GIRDERS + (AC TILE)	$6.34	50"	"	OPTION.	YES	YES	"	S or R	"
6	 PC SINGLE TEES + (AC TILE)	$5.06	31'	"	"	"	"	"	"	"
7	 PC SINGLE TEES + (SIPOREX CEILING)	$6.39	31'	"	NO	"	"	"	"	"
	STEEL :									
1	 STEEL DECK + L.S.G.J. + CEILING	$4.74	43½"	YES	NO	YES	YES	NORMAL	S or R	YES
2	 CONC. + O.W.S.J. + STEEL BEAMS + CEILING	$4.98	41'	"	"	"	"	"	"	"
3	CONC. SLAB + STEEL GIRDER + CEILING	$6.30	36½"	"	"	"	"	"	"	"
4	 CONC + 2 WAY STEEL SPACE FRAME + CEILING	$8.00	36"	"	"	"	"	"	"	"

STRUCTURAL SYSTEMS

NOV 1966

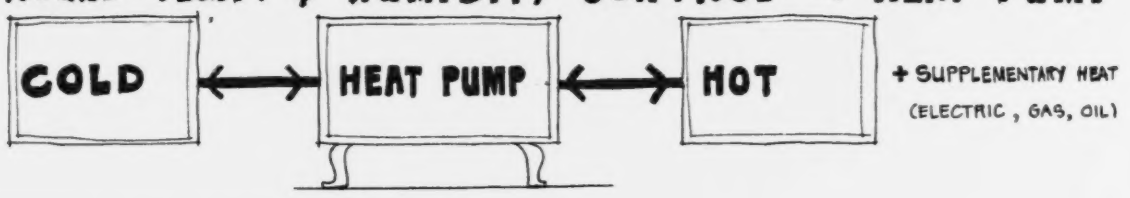
2 SYSTEMS UNDER STUDY : 'A' vs. 'B'

'A'. LIMITED SUMMER TEMP. & HUMIDITY CONTROL

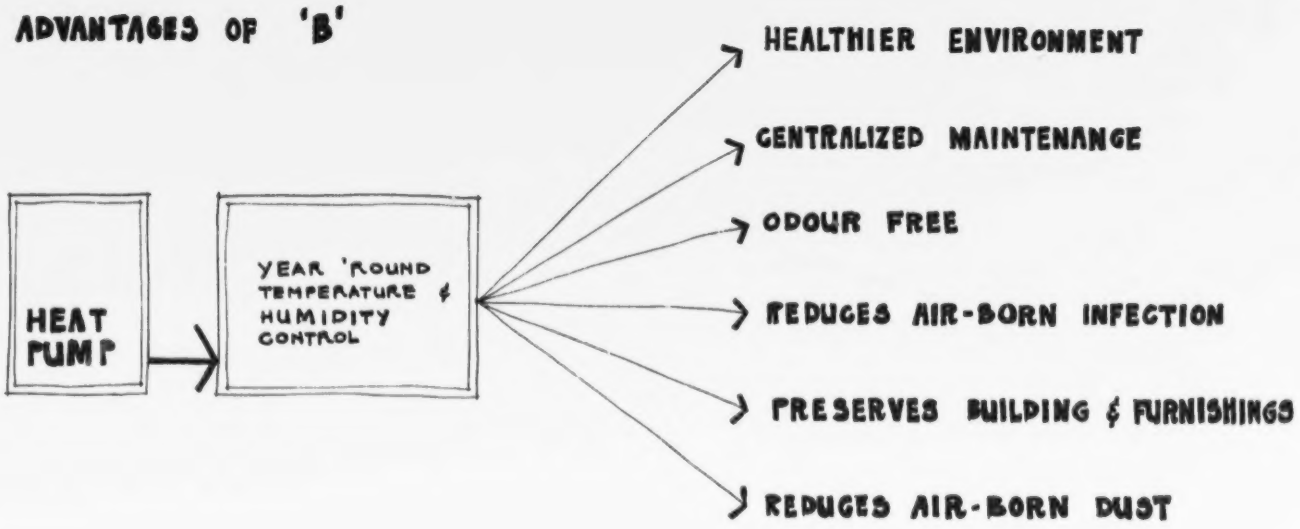


ELECTRIC OR GAS OR OIL

'B'. YEAR 'ROUND TEMP. & HUMIDITY CONTROL → 'HEAT PUMP'



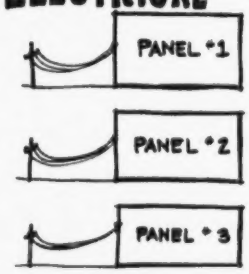
ADVANTAGES OF 'B'



- A HEAT PUMP IS POSSIBLE AT NORMAL CAPITAL COSTS .
- REDUCTION OF OPERATING COSTS : ELECTRIC ~ 15,000 $/YR.
  GAS , OIL ~ 8,000 $/YR.

MECHANICAL SYSTEMS NOV 1966

ELECTRICAL SERVICE :



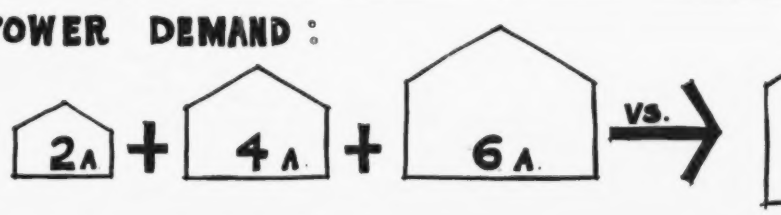
VS.

= LOWER ENERGY COST

3 BASIC SERVICE CHARGES

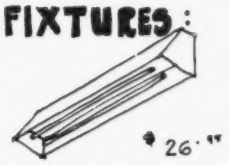
1 BASIC SERVICE CHARGE

POWER DEMAND :

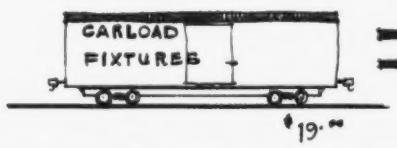


= LOWER CAPITAL COST

LIGHT FIXTURES :

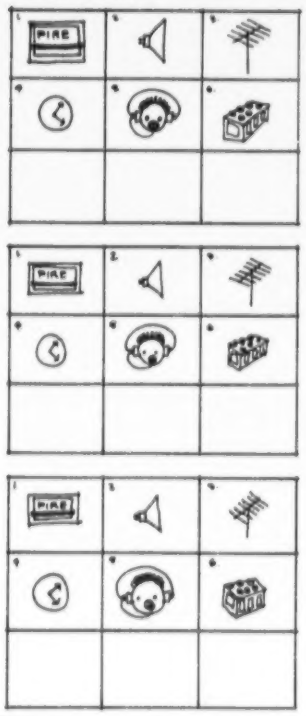


VS.

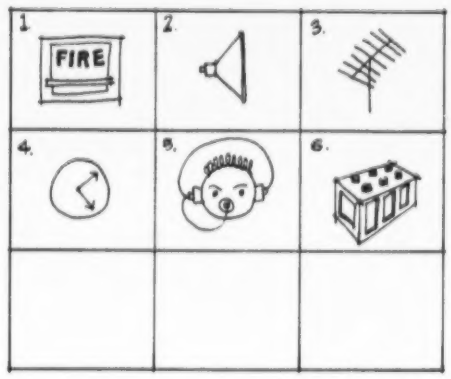


= LOWER UNIT COST

SYSTEMS :

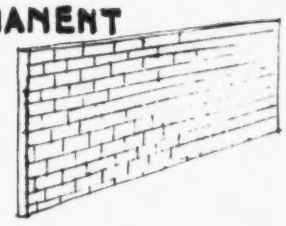
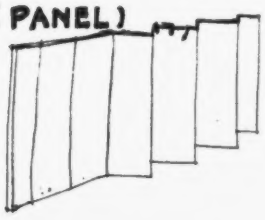
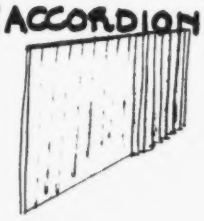
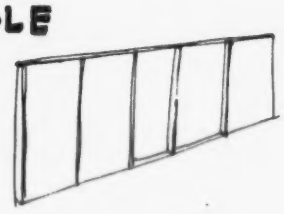
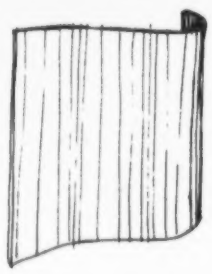


VS.

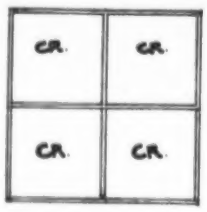


1. FIRE ALARM
2. SOUND SYSTEM
3. E.T.V. - MASTER ANTENNA
4. CLOCKS
5. COMMUNICATIONS
6. EMERGENCY POWER

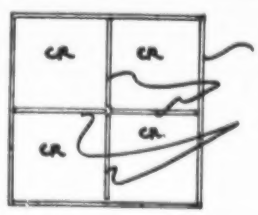
= LOWER COSTS

	S·T·C. (SOUND TRANSMISSION)	COST/sq. ft.
SEMI-PERMANENT 	44-46	.70 - 1.05 $
OPERABLE (PANEL) 	40-50	9.00 - 12.00 $
OPERABLE (ACCORDION) 	22-47	4.50 - 15.00 $
DEMOUNTABLE 	31-43	1.60 - 6.80 $
GYM TYPE AUDITORIUM TYPE 	(GYM) 34-37 (AUDITORIUM)	3.00 - 7.00 $ 7.00 - 16.00 $

6" BLOCK



3,000.00 $



6" BLOCK 1,900.00 $
DEMOUNTABLE 1,540.00 $
OPERABLE 6,160.00 $

9,600.00 $

PARTITION SYSTEMS

NOV 1966